

Supplemental Amendment to Amendment Faxed 3/4/2005
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Amendments to the Claims:

1. (Currently Amended) In a plasma processing system, a method of inspecting a contact opening of a contact formed in a first layer of said substrate to determine whether said contact opening reaches a metal layer that is disposed below said first layer comprising:
- flowing a gas mixture into a plasma reactor of said plasma processing system, said gas mixture comprising a flow of a chlorine containing gas;
 - striking a plasma from said gas mixture;
 - exposing said contact to said plasma; and
 - detecting whether metal chloride is present is in said contact opening after said exposing.
2. (Original) The method of claim 1, wherein said detecting includes observing said metal chloride using a microscope.
3. (Original) The method of claim 1, wherein said detecting includes observing said metal chloride using a top down SEM technique.
4. (Original) The method of claim 1, wherein said chlorine containing gas is Cl_2 .
5. (Original) The method of claim 1, wherein said chlorine containing gas is BCl_3 .
6. (Original) The method of claim 1, wherein said chlorine containing gas is CH_3Cl .
7. (Original) The method of claim 1, wherein said chlorine containing gas is CHF_2Cl .
8. (Original) The method of claim 1, wherein said chlorine containing gas is HCl .
9. (Original) The method of claim 1, wherein said chlorine containing gas is HBr .
10. (Original) The method of claim 1, wherein said chlorine containing gas is Br_2 .

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11. (Original) The method of claim 1, wherein said chlorine containing gas is CuCl_2 .
12. (Original) The method of claim 1, wherein said chlorine containing gas is Cu_xCl_y , where x and y are integers.
13. (Original) The method of claim 1, wherein said set of metals comprises essentially of Cu.
14. (Original) The method of claim 1, wherein said set of metals comprise essentially of Al.
15. (Original) The method of claim 1, wherein said flow of a chlorine containing gas is more preferably between about 1 % and about 100% of a total flow of said gas mixture.
16. (Original) The method of claim 1, wherein said flow of a chlorine containing gas is more preferably between about 10 % and about 80 % of a total flow of said gas mixture.
17. (Original) The method of claim 1, wherein said flow of a chlorine containing gas is most preferably about 50% of a total flow of said gas mixture
18. (Original) The method of claim 1, wherein said plasma processing system employs a bias power setting of about 2 MHz.
19. (Original) The method of claim 1, wherein said plasma processing system employs a RF power setting of about 27 MHz.
20. (Original) The method of claim 1, wherein said plasma processing system employs a RF power setting of about 60 MHz.
21. (Currently Amended) In a plasma processing system, an apparatus for inspecting a contact opening of a contact formed in a first layer of said substrate to determine whether said contact opening reaches a metal layer that is disposed below said first layer comprising:

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a means of flowing a gas mixture into a plasma reactor of said plasma processing system, said gas mixture comprising a flow of a chlorine containing gas;
a means of striking a plasma from said gas mixture;
a means of exposing said contact to said plasma; and
a means of detecting whether metal chloride is present is in said contact after said exposing.

22. (Currently Amended) The apparatus of claim 21, wherein said detecting includes observing said metal chloride using a microscope.

23. (Currently Amended) The apparatus of claim 21, wherein said detecting includes observing said metal chloride using a top down SEM technique.

24. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is Cl_2 .

25. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is BCl_3

26. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is CH_3Cl

27. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is CHF_2Cl .

28. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is HCl .

29. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is HBr .

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30. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is Br_2 .
31. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is CuCl_2 .
32. (Currently Amended) The apparatus of claim 21, wherein said chlorine containing gas is Cu_xCl_y , where x and y are integers.
33. (Currently Amended) The apparatus of claim 21, wherein said set of metals comprises essentially of Cu.
34. (Currently Amended) The apparatus of claim 21, wherein said set of metals comprise essentially of Al.
35. (Currently Amended) The apparatus of claim 21, wherein said flow of a chlorine containing gas is more preferably between about 1 % and about 100% of a total flow of said gas mixture.
36. (Currently Amended) The apparatus of claim 21, wherein said flow of a chlorine containing gas is more preferably between about 10 % and about 80 % of a total flow of said gas mixture.
37. (Currently Amended) The apparatus of claim 21, wherein said flow of a chlorine containing gas is most preferably about 50% of a total flow of said gas mixture
38. (Currently Amended) The apparatus of claim 21, wherein said plasma processing system employs a bias power setting of about 2 MHz.
39. (Currently Amended) The apparatus of claim 21, wherein said plasma processing system employs a RF power setting of about 27 MHz.

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40. (Currently Amended) The apparatus of claim 21, wherein said plasma processing system employs a RF power setting of about 60 MHz.